REMARKS

Claims 1-58 are currently pending in the application. Claims 1-3, 5-14, 16-26, 28-46, 48-50, and 52-58 stand rejected, and claims 4, 15, 27, and 51 stand objected to. Applicant respectfully requests reconsideration of the application in view of the remarks set forth herein.

Anticipation Rejections Under 35 U.S.C. § 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Anticipation Rejection Based on United States Patent 6,004,139 to Dramstad et al.

Claims 1, 2, 3, 5-8, 33-35, and 40-46 were rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent 6,004,139 to Dramstad et al. (hereinafter "Dramstad"). Applicant respectfully traverses this rejection as set forth below.

The Dramstad patent is directed to a memory card adapter enabling a system equipped with older 30-pin SIMMs (Single In-Line Memory Modules) to accept newer 72-pin SIMMs and to a memory card adaptor enabling a system equipped for accepting SIMMs to accept DIMMs (Dual In-Line Memory Modules). Column 1, Lines 31-43; Column 2, Lines 7-17. The memory card adaptor is plugged into a plurality of SIMM sockets, thereby enabling a DIMM (or a 72-pin SIMM) coupled with the adaptor to emulate a plurality of SIMMs and permitting older computer systems to utilize newer memory expansion cards. Column 2, Lines 27-46.

In one embodiment disclosed in FIG. 6 of Dramstad, a memory card adaptor 50 has a DIMM socket 51 mounted thereto, and the memory card adaptor 50 is coupled with a motherboard 54 having two SIMM sockets 52, 53 disposed thereon. Column 5, Lines 1-4. The DIMM socket 51 on adaptor card 50 is electrically coupled to one of the SIMM sockets (i.e., socket 52) via electrical conductors 59a in the adaptor card 50 itself. Column 5, Lines 21-30. The DIMM socket 51 is electrically coupled to the other of the

SIMM sockets (i.e., socket 53) via a ribbon cable 58 and electrical conductors 59 in the adaptor card 50. Column 5, Lines 12-20 and 31-34. **Therefore, both SIMM sockets 52, 53 on motherboard 54 are coupled to the same DIMM socket 51 on the adaptor card 50.**

In another embodiment disclosed in FIG. 7 of Dramstad, a memory card adaptor 66 having a 72-pin SIMM socket 60 is coupled to a motherboard 61 having four 30-pin SIMM sockets 62, 63, 64, 65 mounted thereon. Column 5, Lines 35-42. The 72-pin SIMM socket 60 is coupled to a first of the 30-pin SIMMs (i.e., socket 62) via electrical conductors 81 on the adaptor card 66 itself. Column 5, Lines 42-45 and 55-59. The 72-pin SIMM socket 60 is coupled to a second of the 30-pin SIMMs (i.e., socket 63) via a ribbon cable 70 and electrical conductors 82 in the adaptor card 66. Column 5, Lines 46-54 and 60-63. Similarly, the 72-pin SIMM socket 60 is coupled to a third of the 30-pin SIMMs (i.e., socket 64) via a ribbon cable 71 and electrical conductors 82, whereas the 72-pin SIMM socket 60 is coupled to a fourth of the 30-pin SIMMs (i.e., socket 65) via a ribbon cable 72 and electrical conductors 82. Column 5, Lines 46-54 and 60-63. **Thus, all four 30-pin SIMM sockets 62, 63, 64, 65 on motherboard 61 are coupled to the same 72-pin SIMM socket 60 on adaptor card 66.**

Claim 1 of the present application recites an "apparatus" including the limitations of a "mounting portion including a first communication path to route at least one signal line from a first card connector on a circuit board to a **first card connector on the mounting portion**" and a "routing portion including a communication path, the communication path of the routing portion to route at least one signal line from a second card connector on the circuit board to the mounting portion, a second communication path of the mounting portion to route the at least one signal line of the second card connector on the circuit board to a **second card connector on the mounting portion**." Each of independent claims 33 and 46 recites some limitations similar to those recited in claim 1.

In contrast to the structure disclosed by Dramstad, claim 1 recites an apparatus that couples a first card connector on a circuit board to a first card connector on a mounting portion and, further, that couples a second card connector on the circuit board to a second card connector on the mounting portion, which is a limitation not taught by

Dramstad. For all embodiments disclosed in Dramstad, all sockets on the motherboard are coupled to the same socket on the adaptor card, and the Examiner has not identified any language or teaching in Dramstad to the contrary. Note that, in FIG. 7, the connectors 67, 68, 69 on adaptor card 66 are simply for receiving the ribbon cables 70, 71, 72, respectively, and these connectors are not for receiving a memory module (e.g., a 72-pin SIMM or a DIMM) or other expansion card. Similarly, in FIG. 6 of Dramstad, the connector 55 on adaptor card 50 is for receiving ribbon cable 58 and not for receiving a memory module or expansion card.

In summary, the Dramstad patent fails to teach at least the above-noted limitation of claims 1, 33, and 46, respectively. Therefore, each of claims 1, 33, and 46 is novel in view of Dramstad. Also, claims 2, 3, 5-8, 40, and 41 are allowable as depending from novel, independent claim 1, and claims 34 and 35 are allowable as depending from novel, independent claim 33.

Independent claims 9 and 21 are novel in view of Dramstad for at least the reasons set forth above. Thus, claims 42 and 43 are allowable as depending from novel, independent claim 9, and claims 44 and 45 are allowable as depending from novel, independent claim 21.

Obviousness Rejections Under 35 U.S.C. § 103

To reject a claim or claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. M.P.E.P. § 2142. When establishing a prima facie case of obviousness, the Examiner must set forth evidence showing that the following three criteria are satisfied:

> First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. § 2143.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. M.P.E.P. § 2142 (citing *In re Vaeck*, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991)). Also, the evidentiary showing of a motivation or suggestion to combine prior art references "must be clear and particular." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

Obviousness Rejection Based on United States Patent 6,004,139 to Dramstad et al. in View of United States Patent 6,046,912 to Leman

Claims 9-14, 16-26, 28-32, 36-39, 48-50, 52-58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Dramstad patent in view of United States Patent 6,046,912 to Leman (hereinafter "Leman"). Applicant respectfully traverses this rejection as set forth below.

Claims 9-14, 16-26, and 28-32

The disclosure of the Dramstad patent is summarized above. Leman discloses a motherboard 300 having an attached riser board 304. Column 2, Lines 43-45; FIG. 3. An adapter 302 couples a PCI bus on motherboard 300 to a PCI bus on riser board 304, the adapter 302 coupled between a PCI connector 306 on motherboard 300 and a connector 308 on riser board 304. Column 2, Lines 44-48. The riser board provides one or more connectors 310 for receiving PCI add-in cards oriented substantially parallel to the motherboard 300. Column 2, Lines 48-52. In "another embodiment" of the Leman patent, a riser board 500 is directly connected to the PCI slot 306 on motherboard 300, and an adapter (e.g., adapter 302 of FIG. 3) is not necessary. Column 3, Lines 15-18; FIG. 5.

It is respectfully pointed out that either embodiment (FIG. 3 or FIG. 5) of the Leman patent discloses one problem identified in the prior art that the present invention overcomes. More specifically, either embodiment disclosed in Leman would require a customized motherboard to route all signals through the single PCI card slot 306 to which the adapter 302 of FIG. 3, or the riser board 500 of FIG. 5, is coupled. Avoiding the use of customized motherboards by eliminating the need for routing additional signal paths

through a single card slot is one problem the present invention overcomes. Specification, at paragraphs [0008] and [0024].

Claim 9 of the present application recites, in part, an "apparatus" including the limitations of a "mounting portion secured in the first card connector on the circuit board, the mounting portion including a first communication path to couple the at least one signal line of the first card connector on the circuit board to a first card connector disposed on the mounting portion" and a "routing portion **secured in the second card connector on the circuit board**, the routing portion including a communication path to couple the at least one signal line of the second card connector on the circuit board to the mounting portion, a second communication path of the mounting portion to couple the at least one signal line of the second card connector on the circuit board to a second card connector disposed on the mounting portion." Independent claim 21 recites some limitations similar to those recited in claim 9.

In the embodiment of FIG. 3 of Leman, the adapter 302 is inserted into the PCI slot 306, and the riser board 304 is mechanically attached to the motherboard 300. The riser board 304 is not inserted or otherwise coupled with a PCI slot on the motherboard 300 (see FIG. 3 and accompanying text). In the embodiment of FIG. 5, the riser board 500 is shown inserted into the PCI slot 306 on motherboard 300, and the embodiment of FIG. 5 does not include an adapter 302. Thus, for either of the embodiments of FIGS. 3 and 5, respectively, **all signals to the riser board (304 or 500) are routed through a single PCI slot 306**. Accordingly, Leman – either individually or in combination with Dramstad – fails to teach at least the limitation of a "routing portion secured in a second card connector on the circuit board." Further, for the reasons set forth herein, the Dramstad patent – either individually or in combination with Leman – fails to teach at least the limitation noted in the above-discussion of Dramstad.

In summary, the Leman and Dramstad patents, either individually or in combination, fail to teach or suggest at least the above-noted limitations of independent claims 9 and 21. Also, if an independent claim is nonobvious, then any claim depending from the independent claim is also nonobvious. M.P.E.P. §2143.03 (citing *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988)). Therefore, claims 10-14 and 16-20 are allowable as

depending from nonobvious, independent claim 9, and claims 22-26 and 28-32 are allowable as depending from nonobvious, independent claim 21.

Claims 48-50 and 52-58

Each of claims 48-50 and 52-58 depends from independent claim 46. For the reasons set forth above, claim 46 is nonobvious in view of the Dramstad and Leman patents, either individually or in combination. If an independent claim is nonobvious, then any claim depending from the independent claim is also nonobvious. M.P.E.P. §2143.03 (citing *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988)). Therefore, claims 48-50 and 52-58 are allowable as depending from nonobvious, independent claim 46.

Claims 36-39

Independent claim 36 recites a "method" including the limitations of "securing a mounting structure to a first card connector on a circuit board"; "securing a routing structure to a second card connector on the circuit board"; "routing at least one signal line from the first card connector on the circuit board through a first communication path of the mounting structure to a first card connector on the mounting structure"; "routing at least one signal line from the second card connector on the circuit board through a communication path of the routing structure to the mounting structure"; and "routing the at least one signal line of the circuit board second card connector through a second communication path of the mounting structure to a second card connector on the mounting structure."

For at least the reasons set forth above, Applicant submits that claim 36 is nonobvious in view of Dramstad and Leman, either individually or in combination. Also, if an independent claim is nonobvious, then any claim depending from the independent claim is also nonobvious. M.P.E.P. §2143.03 (citing *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988)). Therefore, claims 37-39 are allowable as depending from nonobvious, independent claim 36.

Claim Objections - Allowable Subject Matter

Claims 4, 15, 27, and 51 were objected to as being dependent upon a rejected base claim, but each of these claims would be allowable if rewritten in independent form. Office Action, at page 17. As set forth above, each of independent claims 1, 9, 21, and 46 is patentable in view of the cited prior art. Thus, Applicant submits that each of claims 4, 15, 27, and 51 is patentable as written in dependent form.

CONCLUSION

Applicant submits that claims 1-58 are in condition for allowance and respectfully requests allowance of such claims.

Please charge any shortages and credit any overages to our Deposit Account No. 02-2666.

Respectfully submitted,

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